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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/964,739	09/28/2001	Woong Kwon Kim	043694-5015-03	2171

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EXAMINER	
HON, SOW FUN	

ART UNIT	PAPER NUMBER
1772	11

DATE MAILED: 03/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

A-S-11

Office Action Summary	Application No. 09/964,739	Applicant(s) KIM, WOONG KWON	
	Examiner Sow-Fun Hon	Art Unit 1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 December 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,5-9,11,13-17 and 20-22* is/are pending in the application.

4a) Of the above claim(s) *17 and 20-22* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,5-9,11 and 13-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/27/02 has been entered.

Rejections Withdrawn

2. The 35 U.S.C. 112,2nd paragraph rejection in Paper # 7 (mailed 08/27/02) of claims 7, 15 over whether the viscosity coefficient is measured before or after thermoset has been withdrawn due to Applicant's clarification that it is measured before thermoset in Paper # 8 (filed 11/27/02).

3. The 35 U.S.C. 112,2nd paragraph rejection in Paper # 7 (mailed 08/27/02) of claims 4,12 has been withdrawn due to Applicant's cancellation of said claims in Paper # 8 (filed 11/27/02).

4. The 35 U.S.C. 112,2nd paragraph rejection in Paper # 7 (mailed 08/27/02) of claim 7 has been withdrawn due to Applicant's amendment and affirmation of the validity of the broad interpretation of the limitation of "between several cp and approximately several ten cp" to mean a range of 1 to 100 cp in Paper # 8 (filed 11/27/02).

New Rejections

Claim Rejections - 35 USC § 112

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 1, 3, 5-9, 11, 13-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. The limitation in independent claims 1 and 9 of "at least one transparent protective layer formed on an outer surface of the first and the second substrate that is configured such that it imparts a compressive stress to the outer surface of one of the first and second substrate" should be rewritten as "at least one transparent protective layer formed on an outer surface of *at least one* of the first *substrate* and the second substrate, wherein the protective layer *has a configuration which* imparts a compressive stress to the outer surface of *at least* one of the first *substrate* and the second substrate" in order to clarify that it applies to one or both substrates.

b. The limitation of "compressive stress" in independent claims 1 and 9 is unclear. Is it a net compressive stress?

c. The limitation of "configured" in independent claims 1 and 9 is unclear. Is it a shape configuration or a chemical one?

Claim Rejections - 35 USC § 103

7. Claims 1, 3, 5, 6, 8, 9, 11, 13, 14, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Margalit et al. (US 5,606,438) in view of Aratani et al. (US 4,671,814).

Margalit et al. has a protected (ruggedized) liquid crystal display (LCD) with a layer of protective transparent plastic material such as acrylic (thermosetting) plastic on the outer surface of each glass substrate (front and back layers of plastic material between which the LCD sandwich is mounted). Margalit et al. also teaches that the protective transparent layer can be inorganic (glass)(column 1, lines 45-65 and column 2, lines 10-20). When the protective glass layer is adhered to the glass substrate with an organic adhesive such as an acrylic resin adhesive, the claim limitation of "the protective layer includes one inorganic layer and one organic layer" is met since the acrylic resin layer also has protective functions as well as adhesive ones.

Margalit et al. fails to teach that the protective transparent layer specifically places a net compressive stress on the outer surface of the glass substrate of the LCD.

Aratani et al. teaches that high compressive stress at the surface of the glass substrate of an LCD is desireable in order to provide high strength to the glass substrate, and is introduced with a compressive –stress inducing (ion-exchanged surface) layer (column 1, lines 5-50, column 2, lines 50-65).

Because Aratani et al. teaches that high compressive stress at the surface of the glass substrate of an LCD is desireable in order to provide high strength to the glass substrate, and is introduced with a compressive –stress inducing (ion-exchanged surface) inorganic (glass) layer on the surface of the glass substrate, it would have been obvious to one of ordinary skill in the art

to configure the protective glass layer in the protected LCD of Margalit et al. in order to induce a compressive stress on the surface of the glass substrate so as to strengthen the glass substrate.

8. Claims 7, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Margalit et al. in view of Aratani et al. as applied to claims 1, 3, 5, 6, 8, 9, 11, 13, 14, 16 above, and further in view of Nakazawa et al. (US 5,260,174).

Margalit et al. has been discussed above, and teaches an LCD protected by a protective glass layer adhered to the glass LCD substrate by an acrylic adhesive which also functions as part of the composite protective layer. Margalit et al., however, fails to teach that the acrylic adhesive has a viscosity coefficient of between approximately several cp to approximately several ten cp before thermosetting (hardening).

Nakazawa et al. has a method of forming films on glass substrates via spin coating of a viscous liquid (column 1, lines 10-35) of an aqueous solution of a thermosetting acrylic resin (column 6, lines 30-50) which would have a viscosity coefficient of between approximately several cp to approximately several ten cp. Nakazawa et al. teaches that this method provides a plastic layer of uniform thickness on a surface of an object having a comparatively large surface area by using a minimum amount of the liquid (column 2, lines 15-20).

Because Nakazawa et al. teaches that this method provides a layer of uniform thickness on a surface of an object having a comparatively large surface area by using a minimum amount of the liquid, it would have been obvious to one of ordinary skill in the art to have used the method of Nakazawa et al. with the low viscosity of the acrylic resin solution to apply the acrylic adhesive to the glass substrate in the invention of Margalit in order to obtain a thin layer of acrylic adhesive with uniform thickness on the glass substrate.

Response to Arguments

9. Applicant's arguments with respect to claims 1,3,5-9,11 and 13-16 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number is (703)308-3265. The examiner can normally be reached Monday to Friday from 9:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on (703)308-4251. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

SH
Sow-Fun Hon
02/28/03

HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772
3/3/03